

Hydrodeoxygenation of Model Compound in Bio-oil from Pyrolysis of Saccharina Japonica
Alga in Fixed-Bed Reactor

Ly Hoang Vu, Le Thien An, 김진수*, 김승수¹

경희대학교; ¹강원대학교

(jkim21@khu.ac.kr*)

Hydrodeoxygenation was found to be a potential strategy for upgrading 2-furyl methyl ketone (FMK) derived from bio-oil of Saccharina (Laminaria) Japonica (S.Japonica) obtained by conventional pyrolysis. The liquid phase of 2-furyl methyl ketone was successfully converted into methyl cyclopentane, whereas the gas phase was mainly methane when the reaction temperature of 400 °C was used. The activity of the Co in phosphides and alumina support was affected by the acidity, calcination temperature and the metal loading. CoP/ γ -Al₂O₃ performed pre-eminently in comparison with other phosphides without the transition metal. The highest conversion and selectivity were achieved using CoP/ γ -Al₂O₃ catalyst synthesized with 10 wt.% Co loading and calcined at 500 °C.